Herbicide Monitoring Report

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Herbicide Monitoring in the Northwestern Tribal Territories

This is the second of a series of newsletters that describe efforts by CAL/EPA's Department of Pesticide Regulation (DPR) to address herbicide concerns on California tribal lands. This project began in late 1997 from meetings with several Northern California Tribes, including the Hupa, Karuk, and Yurok, to discuss herbicide use in Northwestern California. These community meetings addressed tribal concerns about their natural resources, such as drinking water and food supply, that might be affected by herbicides applied for rights-of-way and forestry uses. During these meetings, the tribes asked DPR to sample surface water, vegetation, and soil, encompassing the natural resources these tribes use. Surface water sampling was recommended as a priority since it is a drinking water source and a habitat for fish. As a result, DPR initiated a three-year collaborative study funded by the U.S. Environmental Protection Agency (U.S. EPA).

Sampling in the Hupa and Karuk territories began on October 25, 1998, after the first major rain event following pesticide applications. The second sampling event occurred on June 22, 1999, during a dry period following increased irrigation runoff and high pesticide use in the area beyond the tribal territories. The Karuk sampling sites are 1) Klamath River at Horse Creek Bridge, 2) Scott River at the Highway 96 Bridge, and 3) Elk Creek. Sites for the Hupa Territory are 1) Pine Creek, 2) Supply Creek, and 3) Trinity River at TishTang. All sampling sites were being analyzed for five major forestry herbicides, including atrazine, hexazinone, 2,4-D, glyphosate, and triclopyr. Sites at the Klamath, Scott, and Trinity Rivers were analyzed for 19 insecticides in the carbamate and organophosphate groups. All samples results showed no detectable concentrations of herbicides or insecticides. Analytical method can detect herbicide residues in the 0.05 parts per billion level. Monitoring at these same sites will continue in the fall.

Yurok field trip at Hunter Creek treatment area with Lloyd Tangen of the Simpson Timber Co.

Simpson Timber Company owns much of the forest land in the Yurok territory. In 1999, Simpson Timber Co. began to apply herbicides by ground in April. However, a long rainy season limited the number of applications. With cooperation from Simpson Timber Co., we chosed sampling sites for selected applications based on accessibility and the highest likelihood of detecting herbicide residues.

We monitored ground applications made at the Terwer, Pecwan and Blue Creeks areas. Tank samples were taken at each application site on the day of application. The first rain runoff event after ground applications was monitored on May 2, 1999. At each sampling site, ranging from 80 feet to 1.5 miles from applications, four separate samples were taken at one-hour intervals to increase the

likelihood of detecting the herbicides. Tributaries to Terwer and Pecwan Creeks were sampled for atrazine, and Blue Creek was sampled for atrazine and triclopyr. All samples showed no detectable concentrations of herbicides.

On May 5, 1999 , Simpson Timber Co. made an aerial application of 2,4-D and triclopyr to 300 acres. The first runoff event after application was monitored on May 14, 1999. Four separate samples were taken at Terwer Creek at one and a half-hour intervals. Samples were taken at the nearest accessible site about 3 miles downstream of the application. Most samples were lost in transit due to a vehicle accident. The remaining samples were analyzed and showed no detectable herbicides.

Herbicide applications and monitoring will continue in the fall. Before the applications, we will meet with Simpson Timber Co. to discuss herbicide spray plans and select surface water sampling sites that are most accessible and have the highest

Backpack application of atrazine and triclopyr in Blue Creek area

likelihood of detection. We will monitor surface water immediately after application to determine if herbicides have drifted offsite and contaminated surface water and will again monitor the first rain runoff event. Vegetation monitoring will also begin in fall. DPR will consult with tribal members prior to the application period to determine sampling sites and plants of concern.

Since January 1999, we have conducted four meetings with the Yurok Environmental Workgroup, with other tribes invited. At these meetings guest speakers presented materials on various topics. On February 10, Dr. Frank Spurlock and Dr. Jim Sanborn from DPR discussed pesticide fate in the environment and pesticide toxicology, respectively. On March 31, Ms. Kim Rodrigues from UC Cooperative Extension discussed current and past forest management practices. On June 3, Dr. Joe DiTomaso from UC Davis Cooperative Extension presented mode of action and characteristics of forestry herbicides, and Mr. Brian Finlayson from Department of Fish and Game discussed herbicide fate on fish and wildlife. Mr. Bernard Bush and Mr. John Pricer from Simpson Timber Co. provided information on vegetation management practices. We will continue to hold more meetings to discuss progress and priority of monitoring and other pesticide related issues.

Taking water sample using a programmable auto-sampler at Terwer Creek.

This project is sponsored by the U.S. EPA agreement no. E-999393-10-2; grant manager, Annie Yates. For a detailed study protocol or report, visit http://www.cdpr.ca.gov/docs/empm/pubs/tribal/tribproj.htm or contact Madeline Brattesani at (916) 324-4082 or email at mbrattesani@cdpr.ca.gov; Kean S. Goh at (916) 324-4072 or kgoh@cdpr.ca.gov. Project Directors are Nan Singhasemanon (Hupa and Karuk Territories) and Pam Wofford (Yurok Territory). Newsletter written by DeeAn Jones and Johanna Walters.